

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3172 (1997): Internal Combustion Engines - Fuel Injection Equipment - Single and Double Ended Pipe Unions (single and double ended banjo) [TED 2: Automotive Primemovers]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

आंतरिक दहन इंजन — ईंधन इजेक्शन उपकरण —
एकल और दोहरे सिरे वाले पाइप युग्मक
(एकल और दोहरे सिरेवाले बैंजो) — विशिष्टि
(दूसरा पुनरीक्षण)

Indian Standard

INTERNAL COMBUSTION ENGINES — FUEL
INJECTION EQUIPMENT — SINGLE AND
DOUBLE ENDED PIPE UNIONS (SINGLE
AND DOUBLE ENDED BANJO) —
SPECIFICATION

(Second Revision)

ICS 43.060.40; 23.040.60

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Primemovers Sectional Committee had been approved by the Transport Engineering Division Council.

In this revision, the dimensions given in Tables 1 and 2 have been reworded. The present scope is also being limited to brazed type and can be extended to welded types with availability of additional data.

For the double ended pipe unions, presently only four sizes have been included. Additional sizes, if required, shall also be included in subsequent revision.

In the formulation of this standard, assistance has been derived from the prevailing Industrial practice and also from DIN 7642 sheet 1 Brazed and welded pipe unions with spherical liners (Brazed ring type nipples with indirect or straight extension), issued by the Deutsches Institut für Normung (DIN), Germany.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant placed retained in the rounded off value should be the same as that of the specified in this standard.

AMENDMENT NO. 1 DECEMBER 2008
TO
IS 3172 : 1997 INTERNAL COMBUSTION ENGINES —
FUEL INJECTION EQUIPMENT — SINGLE AND
DOUBLE ENDED PIPE UNIONS
(SINGLE AND DOUBLE ENDED BANJO) —
SPECIFICATION

(Second Revision)

(Page 3, Table 1, first row) — Substitute the following for the existing:

Pipe OD <i>d</i>	<i>b</i> ₁ 0 -0.3	<i>d</i> ₁ +0.3 0	<i>d</i> ₂ -0.5 0	<i>d</i> ₃ <i>b</i> ₁₁	<i>d</i> ₄ <i>C</i> ₁₁	<i>d</i> ₅ ±0.2	<i>k</i> ₁ 0 -0.2	<i>k</i> ₂ +0.2 0	<i>l</i> ₁ ±0.3	<i>l</i> ₂ +0.2	<i>l</i> ₃	<i>l</i> ₄ +0.3 0	<i>r</i> ₁	<i>r</i> ₂	<i>r</i> ₃
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(TED 2)

Reprography Unit, BIS, New Delhi, India

Indian Standard

INTERNAL COMBUSTION ENGINES — FUEL INJECTION EQUIPMENT — SINGLE AND DOUBLE ENDED PIPE UNIONS (SINGLE AND DOUBLE ENDED BANJO) — SPECIFICATION

(*Second Revision*)

1 SCOPE

This standard specifies the dimensions, materials and general requirements for single ended and double ended pipe unions (single and double ended banjo), used with fuel injection pumps, for diesel engines.

2 REFERENCES

2.1 The following Indian Standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
1548 : 1981	Manual on basic principles of lot sampling (<i>second revision</i>)
1573 : 1986	Electroplated coatings of zinc on iron and steel (<i>second revision</i>)
2102 (Part 1) : 1993	General tolerances: Part 1 Tolerances for linear and angular dimensions without individual tolerance indications (<i>third revision</i>)
4431 : 1978	Carbon and carbon manganese free cutting steels (<i>first revision</i>)

3 DIMENSIONS AND TOLERANCES

3.1 Tables 1 and 2 specify the dimensions of brazed type of single ended pipe unions and double ended pipe unions respectively.

3.2 The dimensions and tolerances of bent type single ended and double ended pipe union are shown in Fig. 1 and 2.

3.3 For dimensions where tolerance has not been specified, tolerance of medium series of IS 2102 (Part 1) : 1993 shall apply.

4 MATERIAL

Unless otherwise stated the material shall conform to 11C10S25 of IS 4431 : 1978. Any other material may be used subject to agreement between the purchaser and the manufacturer.

5 WORKMANSHIP AND FINISH

5.1 The pipe unions shall be finished bright and smooth. They shall be free from burrs or any other manufacturing defects.

5.2 The pipe unions shall be protected from corrosion. The parts are to be zinc plated with yellow passivation, in accordance with IS 1573 : 1986.

6 DESIGNATION

Designation shall comprise of :

- a) type Single/Double ended,
- b) outer diameter of pipe, and
- c) number of this standard.

Example:

A brazed type Single/Double Ended pipe union for pipe outer diameter 10 mm and conforming to this standard shall be designated as:

Single/Double Ended Pipe Union 10 IS 3172

7 MARKING

7.1 Marking shall include :

- a) manufacturer's trade-mark or source of manufacture,
- b) lot or batch number,
- c) designation, and
- d) any other special requirements agreed to between the purchaser and the manufacturer.

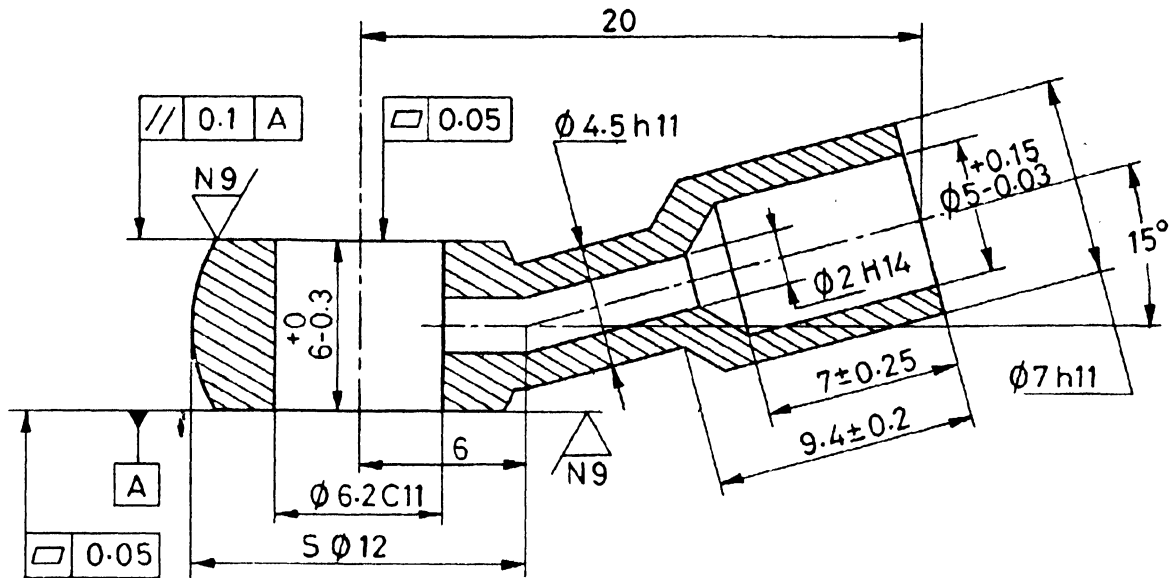


FIG. 1 DIMENSIONS AND TOLERANCES OF BENT TYPE SINGLE ENDED PIPE UNION

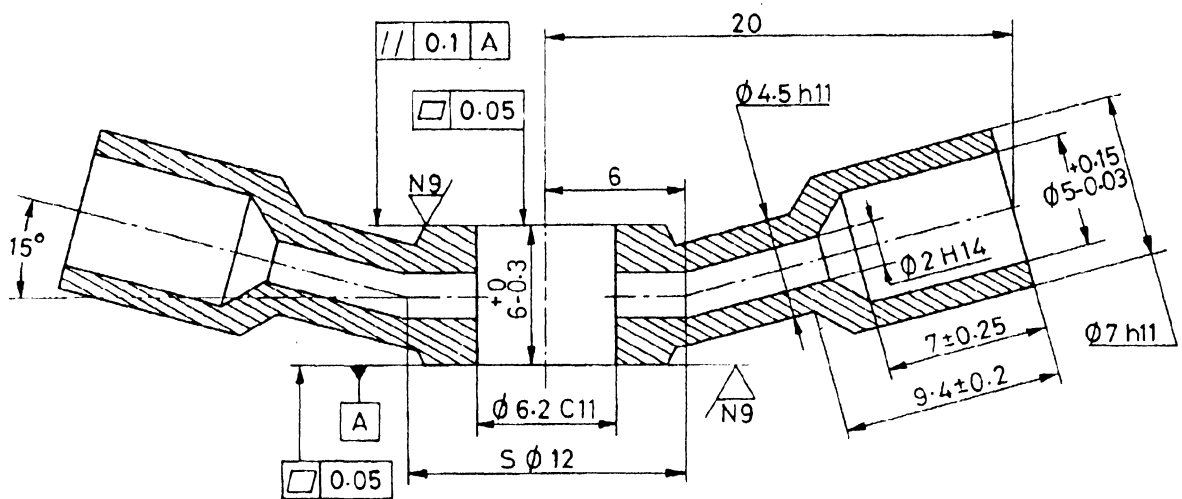


FIG. 2 DIMENSIONS AND TOLERANCES OF BENT TYPE DOUBLE ENDED PIPE UNION

7.2 BIS Certification Marking

The product may also be marked with Standard Mark.

7.2.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made there-under. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

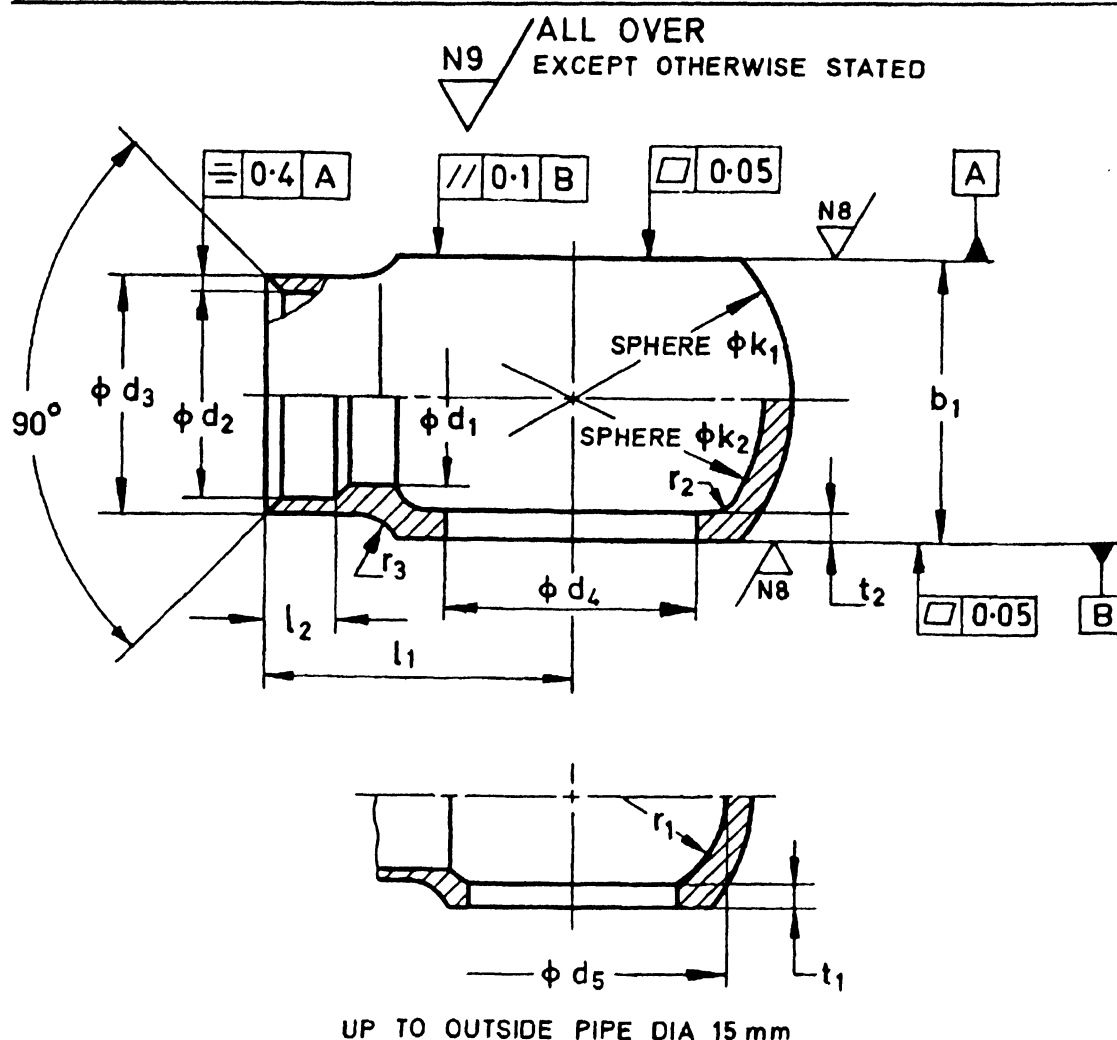
8 PACKING

Packing shall be as per best prevalent trade practices.

9 SAMPLING

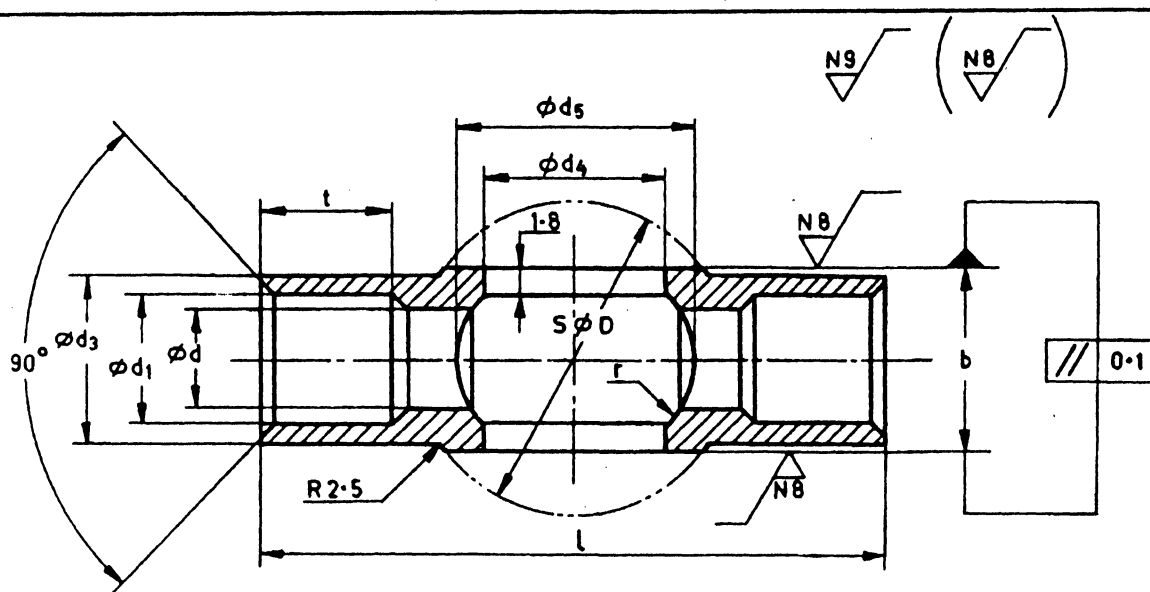
Unless otherwise agreed to between the purchaser and the manufacturer, the sampling and criteria for conformity with the standard shall be as laid down in IS 1548 : 1981.

Table 1 Dimensions and Tolerances of Single Ended Pipe Unions
(Foreword, and Clause 3.1)



Pipe OD d	b_1 0 -0.03	d_1 +0.03 0	d_2 -0.05 0	d_3 h_{11}	d_4 C_{11}	d_5 -0.2 0	k_1 0 -0.2	k_2 +0.2 0	l_1 ± 0.03	l_2 +0.2	t_1	t_2 -0.3 0	r_1	r_2	r_3
3	8	2	3.15	5.5	8	11	14	-	14	6	1.8	-	2.5	-	1.6
4	8	3	4.15	6.5	8	11	14	-	14	6	1.8	-	2.5	-	1.6
5	8	3	5.15	7.5	8	11	14	-	14	6	1.8	-	2.5	-	1.6
6	10	4	6.15	9.5	10	13.5	17	-	16	6	1.8	-	4	-	2.5
8	12	6	8.15	10.5	12	16.5	20	-	18	6	1.8	-	5	-	2.5
10	14	8	10.15	12.5	14	20	24	-	20	6	1.8	-	6	-	2.5
12	16	10	12.15	14.5	16	24	28	-	22	6	1.8	-	7	-	2.5
15	20	13	15.15	18	18	27	32	-	24	6	2.2	-	9	-	4
18	25	16	18.15	21	22	-	39	33	27	6	-	2.5	-	2.5	4
22	30	20	22.15	25	26	-	46	40	32	8	-	2.5	-	2.5	4
28	36	26	28.15	32	30	-	54	47	38	10	-	3	-	-	6
35	44	33	35.15	39	38	-	67	60	44	10	-	3	-	-	6
42	52	40	42.15	46	45	-	80	73	50	10	-	3	-	-	6

Table 2 Dimensions and Tolerances of Double Ended Pipe Unions
(Foreword, and Clause 3.1)



Nominal OD	$0 d_1 + 0.05$	$b - 0.3$	$d + 0.3$	$d_3 h_{11}$	$d_4 C_{11}$	$d_5 + 0.2$	$D - 0.2$	$l \pm 0.3$	$t \pm 0.3$	r
4.0	4.1	8	3	6.5	8	11.0	14	32	8	2.5
5.0	5.1	8	3	7.5	8	11.0	14	32	8	2.5
6.0	6.1	10	4	8.5	10	13.5	17	40	10	4.0
10.0	10.1	14	8	12.5	14	20.0	24	48	14	6.0

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Amendments Issued Since Publication

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones: 323 01 31, 323 33 75, 323 94 02

Telegrams: Manaksanstha
(Common to all offices)

Regional Offices:

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	323 76 17, 323 38 41
Eastern : 1/14 C.I.T. Scheme VII M, V.I.P. Road, Maniktola CALCUTTA 700054	{ 337 84 99, 337 85 61 337 86 26, 337 91 20
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022	{ 60 38 43 60 20 25
Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113	{ 235 02 16, 235 04 42 235 15 19, 235 23 15
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093	{ 832 92 95, 832 78 58 832 78 91, 832 78 92
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